

# Earthworm "Seeds" Now In Production

By Dee Goerge, Contributing Editor

We've been telling you for years about Bill Kreitzer's mission to boost earthworm populations by "planting" them right along with crops. He recently called to tell us he's now in production on his earthworm "seeds".

In 2004 Kreitzer invented and patented Vermipods™, small "cocoon" about the size of a soybean that contain from 1 to 10 worm eggs, something that was previously thought biologically impossible. The pods can be planted right along with seed. The eggs inside are ready to hatch and multiply.

Kreitzer's research first appeared in FARM SHOW way back in 1990 (Vol. 14, Issue 2), but his first encapsulating method was not economically feasible. Since then, the Elliott, Ill., entrepreneur has worked with USDA grants, investors and earthworm expert and professor of entomology, Dr. Clive Edwards from Ohio State University.

Over the years worms in test plots have multiplied to about half a million worms/acre on a 5-acre research plot. Soil that yielded 159 to 179 bu/acre corn before now produces more than 200 bu/acre - with nitrogen applications every other year and no phosphorus and potassium applications for the past 10 years.

Kreitzer's patent covers his method for encapsulating worm eggs in the Vermipods. He raises breeder worms at a production facility in Gibson City, Ill. Vermipods can keep up to six months refrigerated and three months without refrigeration.

The focus of Kreitzer's work is to make it

easier for landowners to "plant worms". The easiest way is to mix Vermipods in with seed at planting time. Vermipods can also be dropped into holes as soil samples are taken.

Kreitzer recently patented another method using injection equipment, such as a liquid nitrogen applicator with tank. An agitator circulates water in the tank so suspended cocoons are injected into the ground — any time of year the ground is not frozen.

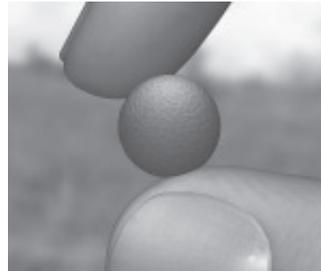
For example, to plant 300 Vermipods/acre on 160 acres, 48,000 Vermipods would be put into a tank with 500 gal. of water and injected at 3.125 gal./acre. At 14 cents/VermiPod the cost would be \$42/acre.

Kreitzer offers a discounted price of 10 cents/VermiPod for orders of 1 million or more.

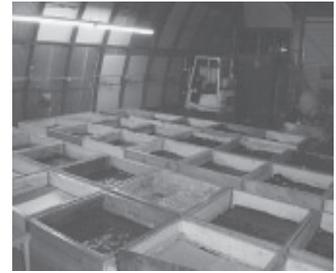
"There is no minimum number of Vermipods that one needs to plant per acre," says Kreitzer. "However, the more you plant, the quicker the results will be. The key here is to get started so God's lowly earthworms can get to work."

The use of anhydrous ammonia since WWII, along with pesticides and other modern day farming practices, has depleted many soils of earthworms. Earthworms chew up organic material and also aerate the soil and create burrows to improve water infiltration and reduce run-off.

Kreitzer's Vermipods are available with five different worm species suited for different soil conditions and types. It depends on how many Vermipods are planted, but it takes



**Bill Kreitzer wants to make it easier for landowners to "plant" worms. His Vermipods are planted like ordinary seeds. Each VermiPod contains 1 to 10 worm eggs ready to hatch and multiply. Photos at right show breeding boxes and spreader used at Kreitzer's 5-acre worm production facility.**



at least three years to see some benefits from the worms multiplying in a field, Kreitzer says. The eventual goal is to get 1 million worms/acre, or about 25/sq. ft.

After nearly 20 years of research and development, Kreitzer hasn't lost his enthusiasm or belief in the rejuvenating value of earthworms. He remembers the more than 300 FARM SHOW readers who contacted him after the original article. Many financially supported him.

"If they donated money to the University of Illinois toward our research at that time, we want to send them some free Vermipods,"

Kreitzer says. He has the names of original donors but has lost the addresses. He invites donors to contact him.

Vermipods can be purchased directly from the Kreitzer's website for buying in bulk. Smaller amounts are available from distributors such as Gardens Alive!, Insect Lore and Territorial Seed Company.

Contact: FARM SHOW Followup, Bill Kreitzer, Vermipod Inc., P.O. Box 1, 104 W. Market St., Elliott, Ill. 60933 (ph 217 781-4367; BillKreitzer@vermipod.com; www.vermipod.com).

# School Bus Converted To Family Camper

With a little remodeling, an old school bus can provide all the comforts of a mobile home. For the past two summers, Wayne Todd and his family have enjoyed spending part of their summer on a Montana lake living in a bus.

Todd bought the 1991 International 6-cylinder, 170 hp diesel bus for \$1,500 from a bus company that serves his school district in Coffee Creek, Montana.

"After the bus reaches a certain age, it can't be certified for hauling kids," Todd notes. Mechanically the bus was fine and Todd knew it had received good maintenance and was only used as a spare bus in its last years. His son unbolted all but a couple of the seats and caulked the holes in the floor.

Todd is a wheat grower with experience as a finish carpenter. He used some salvaged store displays to build cabinets, bunk beds and divider walls. He shopped on eBay for a propane stove and refrigerator and bought an 18-gal. water storage tank and pump for under the sink.

He put screen in roof hatch for ventilation and bought an AC converter to run a fan, coffee pot and other appliances off the battery.

The bus works well for Montana summers, but was a little chilly for a fall deer hunting

trip. It sleeps the four members of the Todd family comfortably, with the bunk beds, a seating area and the table converted to beds using bus seat cushions.

"From a woodworking perspective, the most challenging part was trying to fit to the curved ceiling. I ended up caulking quite a bit, but nothing has shaken loose," Todd says. "It's a work in progress." Future plans include adding a heater, finishing the bathroom, and putting a small deck on the back to hold a barbecue grill.

Altogether he estimates he has less than \$3,000 in the bus. For others considering doing something similar, he suggests contacting bus companies. Buy one with manual transmission, if possible, Todd recommends. When driving on back roads, manual shifting is better for hills and boat landings. He likes the bus's clearance and ability to drive places motorhomes can't travel. It also gets a respectable 8 to 10 mpg.

States vary on the type of vehicle license needed for buses. Todd was required to remove the lettering and disconnect the warning lights.

"My kids keep nagging me to change the color, but it's an awful good paint job," Todd says. Besides, it's easy for guests to find the



**For the past two summers, Wayne Todd and his family have enjoyed spending part of their summer on a Montana lake living in a converted bus.**



**Bus sleeps the four members of the Todd family comfortably on bunk beds, and a table converts into a bed using bus seat cushions.**



yellow bus amongst all the regular campers. Contact: FARM SHOW Followup, Wayne Todd, Box 83, Coffee Creek, Montana 59424 (ph 406 567-2607; wtodd@tc-cmc.net).

# Satellite Dish Keeps Generator Dry

Louis Jaccard, Stockton, Mo., found a new use for an old satellite dish. It keeps his backup generator dry.

"The control box for my electricity has a manually-operated switch, which I turn off before starting the generator. The satellite dish keeps both the generator and the control box from getting wet," says Jaccard. "I also mounted a yellow strobe light on top of the dish. The light comes on as soon as the main power comes back on, so when I see that I know it's time to stop the generator."

The 10-ft. satellite dish is U-bolted to an

angle iron frame that's anchored in concrete. A small box located above the control box is wired to the electric line and also to the strobe light.

"If I throw the switch to start the generator, the light can't come on until the power comes back on. I didn't want to use an automatic switch on the generator because that would have required a lot more wiring," says Jaccard.

Contact: FARM SHOW Followup, Louis Jaccard, 14320 E. 2074 Rd., Stockton, Mo. 65785 (ph 417 276-5423).



**Satellite dish keeps Louis Jaccard's backup generator from getting wet. Yellow strobe light on top of dish comes on as soon as the main power returns.**